APPENDIX I.

[*Vide* answer to question No. 610 asked by Mr. G. Harisarvottama Rao at the meeting of the Legislative Council held on the 26th November 1928, page 12 supra.]

(i)

Proceedings of the Board of Revenue (Land Revenue and Settlement), Rout. No. 5979, dated 13th October 1927.

READ—the following paper :—

Letter from M.R.Ry. Rai Bahadur U. RAMA RAO Avargal, B.A., Collector of Kurnool, R.C. No. A-5-1683-27, dated the 18th September 1927.

Resolution—Rout. No. 5979, dated 13th October 1927.

Submitted to Government.

2. The channel C.D. issuing from sluice No. 26 of the Kurnool-Cuddapah canal irrigates about 150 acres of land. Water is taken by ryots from the channel by open cuts made on the bank. The result is that tail end lands suffer and Medam Venkayya, who owns lands in the tail end, requests that the channel may be repaired by Government. The Executive Engineer states that the so-called main channel C.D. is merely a water course and that the repairs to the channel should be done by the ryots themselves. Strictly, the position taken up by the Executive Engineer is correct. Government do not undertake distribution of water after it leaves the sluice and the distribution of water below a sluice and the maintenance and repair of subsidiary distributaries should be done by the ryots themselves. It seems, however, to the Board that Government should help in the matter by prohibiting the irrigation of dry lands by open cuts and by penalizing such irrigation. If this were done, upper ryots would not make open cuts and there would not be so much waste of water to the detriment of tail end wet lands.

(True extract)

B. G. HOLDSWORTH,
Secretary.

(ii)

Official Memorandum No. 4730-B/27-1, Revenue, dated 9th December 1927.

[Irrigation—Kurnool district—Kurnool-Cuddapah canal—Distributaries—Repairs—B.P. Rout. No. 5979, dated 13th October 1927.]

The Board has recommended that in the case of distributaries taking off from the Kurnool-Cuddapah canal, the Government should prohibit the irrigation of dry lands by open cuts and penalize such irrigation. This course can be adopted only if there are means of irrigation other than open cuts in those distributaries, and if, in the water permits, it is stipulated that permission to use water is granted subject to the condition that it should not be taken except through the particular sluice or other outlets specified in the permit as the source of supply for the land.

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The Executive Engineer, Kurnool division, has stated that it is proposed to eliminate the numerous existing cuts along the channel and to provide only a few controlled sluices. Unless this proposal is carried out in the case of these distributaries and a wet ayacut is registered under each sluice and the permits for the irrigation of dry lands are granted in the manner already indicated, no real control is possible.

The Board of Revenue is requested to report what the existing practice is, whether means other than open cuts exist in the case of these distributaries taking off from the main canal, and, if not, how the lands are to be irrigated if irrigation by open cuts is to be prohibited as recommended by it.

J. F. HALL,
Secretary to Government.

(iii)

Proceedings of the Board of Revenue (Land Revenue and Settlement), Rout. No. 3109, dated 10th May 1928.

With reference to their Memo. No. 4730-B/27-1, dated 9th December 1927, the Board begs to submit copies of the reports of the Collector of Kurnool and the Executive Engineer which set out the present practice.

They recommend that the existing practice may be allowed to continue subject to the condition that the ryots holding dry lands should come to an agreement with the ryots holding wet lands to observe a system of turns even during seasons of scarcity and that the grant of permits to dry lands should be subject to this condition. This suggestion is, in the Board's opinion, impracticable as the condition could not be enforced. The Collector also recommends that masonry sluices should be constructed by Government at the head of each branch or distributary. The course suggested will not meet the difficulty under consideration which is to control the distribution of the supply received in the channel.

2. Under existing conditions, it is impossible to prohibit the irrigation of dry lands by open cuts and penalize such irrigation unless the ayacut can be more definitely localized than at present. The system of open cuts cannot be abolished and the problem of internal distribution has to be left to the ryots themselves.

3. In another connexion the Board has issued instructions to the Collectors of Kurnool and Cuddapah to investigate the possibility of localizing wet and systematically irrigated blocks and the question of the control of distribution can best be decided on the basis of the results obtained from that investigation. It will submit a report to Government in due course as soon as that enquiry is finished.

(True extract)

B. G. HOLDSWORTH,
Secretary.

ENCLOSURES

No. (1)

Letter from P. RAMALINGAM, Esq., I.C.S., Collector of Kurnool, dated 13th April 1928, D. No. 4067-27.

[Board's Reference H. No. 8548-27-1, dated 19th December 1927.]

The existing practice of irrigation under the Kurnool-Cuddapah canal is mostly through open cuts in the distributary channels issuing from the sluices on the Kurnool-Cuddapah canal. In these channels there are no 'pucca' controllable offtakes either for the ryots' water courses or for direct watering of the fields. Even where a distributary channel divides into branches, masonry division works exist only in rare cases. In some of the larger distributaries, where a cut will not be easily manageable, a dry stone tunnel is built in the bank.

2. The Executive Engineer remarks that there are two courses now open to us for dealing with the irrigation from the distributaries—

(1) To allow the existing practice of cuts to continue on condition that the ryots owning dry lands come to some agreement with the ryots holding wet lands to observe a system of turns, even during seasons of scarcity, the grant of permits to dry lands being made subject to the above condition and further to provide for some structure to control supply at the head of a branch or distributary, the cost of the masonry work being met by Government or by ryots according to the merits of each case.

(2) To replace cuts by 'pucca' sluices as suggested by the Board.

(3) The Executive Engineer is not in favour of this latter proposal as it is beset with the several practical difficulties enumerated by him in his letter (copy enclosed).

(4) I am in general agreement with the Executive Engineer's views, but I think that the masonry works involved in the construction of structures to control supply at the head of a branch or distributary should be constructed at Government cost.

No. (2)

Letter from M.R.Ry. K. V. SANKARA AYYAR Avargal, Executive Engineer, Kurnool division, to the Collector of Kurnool, dated 29th March 1928, No. 1600.

[Your No. A. 5–4067 of 1927, dated 25th December 1927.]

In the distributaries issuing from the sluice on the Kurnool-Cuddapah canal there are no pucca controllable offtakes either for the ryots' water courses or for direct watering of the fields. Even where a distributary divides into branches, masonry division works exist only in rare cases. Even these are either damaged or outflanked. In some of the larger distributaries, where a cut will not be easily manageable, a dry stone tunnel is built in the bank. These, too, are not always properly repaired or maintained.

2. I believe the aim of the Board is that water-supply to lands classed 'wet' should be ensured in preference to those classed dry, though these latter are systematically irrigated every year. Cases where water is drawn occasionally to save dry crops are not taken into consideration here.

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3. If from a distributary or branch both wet and systematically irrigated dry lands draw water there are two courses as detailed below :—

(a) To allow the existing practice of cuts to continue on condition that the dry land ryots come to agreement with wet land ryots to observe a system of turns even during the scarcity periods of flow. In this case, the grant of permits to dry lands may be made subject to the above condition. In such a distributary Government need not interfere with the internal fieldwar distribution. It would be enough if some structure to control supply at the head of a branch, or distributary be provided for. This masonry work, if it be for a branch, may be at Government cost if the other branches irrigate lands in a different village. If however, the other branches too are for the same village, the cost may be borne by the interested ryots or by Government according to the merits of the case. In this method of distribution the ryots have the advantage that they can by economical use of the water increase the area irrigated or water any plot they choose by rotation within the limits of command of the distributary.

(b) To replace cuts by pucca sluice as suggested by the Board. The adoption of this course in this canal system is beset with several practical difficulties—

(i) Most of the distributaries in the Kurnool-Cuddapah canal system are small ones, with banks only about a yard in height, the imperceptible cutting and close of which will be an easy affair. These are similar to ryots' water-courses in the deltas. The existing establishment is too meagre to detect the cuts. Even if detected, it will be *difficult to prove the cut and book the culprit.*

(ii) With an earth cut, the waterway is undefined, erodible and not readily controllable, while a pucca sluice can be given a defined and unerodible ventway and can easily be controlled. Besides these advantages, the area of the vent can be calculated to give a supply proportionate to the ayacut. In the cases of small sluices or outlets, the ventway is not regulated for want of men and so their discharge is constant and continuous. If proportionate discharge be not aimed at, the sluice can still be used to give a requisite supply by keeping the sluice closed at suitable intervals, i.e., by a system of turns In this case of supply by turns or rotation the area of vent may be larger as this will give a quicker discharge in a shorter period. Now, in the Kurnool-Cuddapah canal the irrigated plots (whether classed wet or systematically irrigated dry) are small and in detached bits and not always close to a distributary. The area of the individual plots is generally very small, say less than 15 acres. The ventway of a sluice calculated to give a continuous supply proportionate to such a small extent will be impractically small, say an inch or two in diameter. The rate of flow from such small tubes will be so slow that the water will sink into the field when it emerges out of the tube and be lost instead of spreading over the whole extent. So, for proper watering of the fields, a quicker flow (which means a greater discharge with a larger ventway) will have to be allowed. It is on this consideration that the discharge from a sluice cannot be less than a specified minimum which depends upon the nature of the soil and slope of the ayacut. This limiting discharge is itself wastefully large for the numerous small irrigated plots under the distributaries of this canal.

As these plots are not generally contiguous, clubbing them up under a single larger sluice as is done in the deltas is impracticable. Even if sluices

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are constructed, if superfluous *waste in distribution is to be avoided,* the adoption of the turn system cannot be obviated even during non-scarcity periods. Of course, during scarcity turns are inevitable.

(iii) The actual irrigated *ayacut itself is indefinite.* The dry class ryot, on account of the poor quality of the soil, observes the system of rotation by which the same field is not irrigated from year to year, though the extents of irrigation may practically remain unaltered as this is determined by his capacity to get manure, etc. The design of a sluice assumes that the ayacut under it can be localized and fixed. This, however, is doubtful as the ryot will lose the elasticity of choice which he now enjoys.

(iv) This policy will entail the preparation of ayacut maps with field levels, preparation of designs and estimates for sluices, construction of the sluices and conducting trial observations, etc., and the process will be a tedious one *involving heavy cost and establishment.* After all, it is not likely to be satisfactory to the ryots. I doubt whether the cost of all these operations and constructions will be borne by the dry land ryots.

(v) I may note in this connexion that in the Mydekur, Etur and Cheapad channels under the canal system and a few sluices on the Kurnool-Cuddapah canal itself *even locked masonry sluices are broken* and it has not been found practicable to trace the culprit or prevent recurrence of such practices. On the whole, therefore, the better course will be for Government to insist on turns being voluntarily instituted and arranged for among the ryots under each distributary or branch. When this is done, the ryots will of themselves go in for the construction of pakka sluices to reduce the labour of cuts and cross bunds in earth.

4. As regards the penultimate paragraph of the Government Memorandum No. 4730-B/27-1, dated 9th December 1927, my proposal to eliminate the numerous cuts and to provide a few controlled sluices was made in connexion with a specific channel, viz., that issuing from sluice No. 31, and even here the work was confined to the first reach in it. Here, the conditions were specially favourable for sluicing as practically all the commandable lands are now under regular irrigation. My object here was to save the waste in the first reach and send down an increased supply to the lower reaches of the channel and also to get an idea of the duty at which a channel like this (with the ayacut lands disposed in a long narrow strip having a steep cross slope down from the channel towards a river parallel to the channel) can work without complaint of inadequate supply. Being a sluice at the headquarters of the Subdivisional Officer and myself, observations here could be conveniently made. Such favourable conditions for sluicing the distributaries obtain only in very few channels on the Kurnool-Cuddapah canal, e.g., above Kurnool and below the Adiminayapalle anicut.